This information is available on the Internet at www.hansen-neon.de or www.klinger-neon.de N29E/12/2002
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Calculation of the ignition voltage

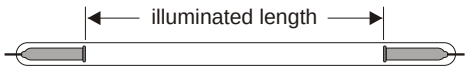
The below formula for the calculation of the required ignition voltage applies to both electronic convertors and traditional coil & core transformers.

Basis for the calculation are the "Filling Pressure Recommendations for Flurescent Tubes"published by the German *Fachverband Lichtwerbung - FVL*

IGNITION VOLTAGE:
minimum open circuit voltage necessary for igniting the tubes

Ignition voltage per pair of electrodes:	
Blue discharge - indoor installation	250 Volt
Blue discharge - outdoor installation	300 Volt
Red discharge (indoor and outdoor)	300 Volt

Overall length of all neon systems (in meters)
measured between the electrode outlets



IGNITION VOLTAGE = (VOLT / METER x TUBE LENGTH) + (ELECTRODE VOLTAGE x NO. OF SYSTEMS)

Total of all neon tube systems

Required ignition voltage in Volt / meter of high-voltage tube									
	Tube diameter in mm (outside diameter)								
	7	10	12	15	18	20	22	24	26
Blue discharge (indoor)	925	620	500	410	350	325	300	275	255
Blue discharge (outdoor)	1100	730	590	480	410	380	350	325	300
Red discharge (indoor and outdoor)	1600	1140	930	750	625	580	550	525	500

Example:
A neon sign consists of 5 systems with an overall illuminated length of 4.2 m at a tube diameter of 15 mm. The system is to be installed indoors, and the tube current shall be 40 mA.
Calculation:

Ignition voltage = (410V/m x 4.2m) + (250 V/system x 5 systems) = 2,972 V

Result:
A convertor with an open circuit voltage of 3,000 Volt and a rated current of 40 mA is required (e.g. EVG 40/3)